

Abstract of the Disclosure

An apparatus for matching the impedance of an RF generator to the impedance of an RF load, for use in manufacturing semiconductor devices by using a plasma. The apparatus includes a variable inductor coupled to a variable capacitor and an invariable capacitor, the variable inductor having two inductors coupled electrically with each other in series and disposed adjacent to each other. At least one of the two inductors is disposed movably to make the magnetic flux of the one inductor interfere with the magnetic flux of the other inductor, thereby to control the inductance of the variable inductor. In the case of a plasma enhanced semiconductor wafer processing system, the apparatus can reduce the time necessary to achieve an RF match between the RF generator and the RF load, thereby increasing the life of the apparatus.